CLAIMS

1. A composition comprising a mixture of

(A) a polymerisable compound, which undergoes polymerisation on exposure to heat or to actinic radiation, having the general formula

$$Q\left[\left(L\right)_m X\right]_n$$

wherein Q is an organic charge transporting fragment, L is a linker group, X is a group capable of undergoing free radical or anionic polymerisation on exposure to heat or actinic radiation, m is 0 or 1, and n is an integer having a value of 2 or more; and

(B) a phosphorescent material.

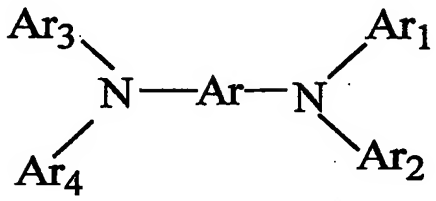
2. A composition according to claim 1, wherein the organic charge transporting fragment Q has a triplet energy level which is substantially equal to or slightly greater than the energy level of the emissive state of the phosphorescent material.

3. A composition according to either claim 1 or claim 2, wherein X is selected from groups containing ethylenic unsaturation and groups containing a cyclic ether moiety.

4. A composition according to claim 3, wherein X is a group containing an acrylic group, a vinyl group, an allyl group or an epoxide group.

5. A composition according to any one of claims 1 to 4, wherein Q comprises at least one group selected from carbazole and arylamine.

6. A composition according to claim 5, wherein Q has the general formula

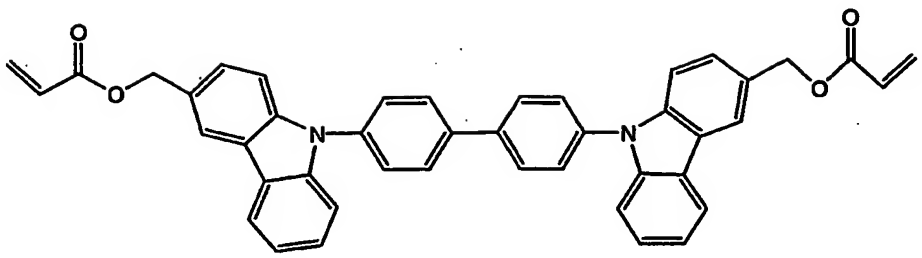


where Ar is an optionally substituted aromatic group and Ar_1, Ar_2, Ar_3 and Ar_4 are the same or different optionally substituted aromatic or heteroaromatic groups or Ar_1 and Ar_2 are linked together to form with the N atom to which they are both attached, a N-containing heterocyclic group and/or Ar_3 and Ar_4 are linked together to form, with the N atom to which they are both attached, a N-containing heterocyclic group and wherein at least two of Ar_1, Ar_2, Ar_3 and Ar_4 are linked to a group $-(L)_m-X$.

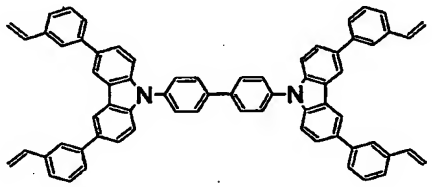
7. A composition according to claim 6, wherein Ar_1 and Ar_2 are linked together to form, with the N atom to which they are both attached, an optionally-substituted carbazole group.

8. A composition according to claim 6 or claim 7 wherein Ar_3 and Ar_4 are linked together to form, with the N atom to which they are both attached, an optionally-substituted carbazole group.

9. A composition according to claim 8, wherein the polymerisable compound has the structure



10. A composition according to claim 8, wherein the polymerisable compound has the structure



11. A composition according to any one of claims 1 to 4, wherein Q is an electron-transporting group selected from an aryl-substituted oxadiazole group and an aryl-substituted triazole group.

12. A composition according to claim 11, wherein Q is selected from a 3-phenyl-4-(1-naphthyl)-5-phenyl-1,2,4-triazole group and a 1,3-bis (N,N-t-butylphenyl)-1,3,4-oxadiazole group.

13. A composition according to any one of claims 1 to 12, wherein the phosphorescent material is a phosphorescent organometallic complex of a transition metal or a phosphorescent organometallic transition metal dendrimer.

14. A composition according to claim 13, wherein the phosphorescent material is selected from an organometallic complex of iridium, an organometallic complex of platinum and an organometallic iridium dendrimer.

15. A composition according to claim 14, wherein the phosphorescent material is selected from tris(2-phenylpyridine)iridium, bis(2-(2'-benzo[4,5-α]thienyl)pyridinate-N,$C^{3'}$)iridium or 2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphine platinum.

16. A composition according to any one of claims 1 to 15, wherein the phosphorescent material is present in the mixture at a concentration in the range of from 0.5-15 molar %, preferably 2 to 6 molar %.

17. A composition according to any one of claims 1 to 16 which, additionally, contains at least one initiator.

18. A composition according to any one of claims 1 to 16 wherein the composition does not contain a separate initiator.

19. A solid film comprising a thermally-induced polymerisation reaction product of a composition according to any one of claims 1 to 18.

20. A solid film comprising a radiation-induced polymerisation reaction product of a composition according to any one of claims 1 to 18.

21. A film according to either claim 19 or claim 20 in the form of a predetermined pattern.

22. A laminate comprising at least two solid films according to claim 21.

23. An organic light emitting device comprising, laminated in sequence, a substrate, electrode, light emitting layer and counter electrode wherein the light emitting layer is selected from a film according to any one of claims 19 to 21 and a laminate according to claim 22.

24. A device according to claim 23, additionally comprising a hole-transporting layer located between the anode and the light emitting layer.

25. A device according to either claim 23 or claim 24, additionally comprising a hole-blocking layer located between the light emitting layer and the cathode.

26. A device according to any one of claims 23 to 25, additionally comprising an electron-transporting layer located between the light emitting layer and the cathode.

27. A device according to any one of claims 23 to 26 with active-matrix addressing.

28. A method of making a light emitting layer comprising the steps of forming a film of a composition claimed in any one of claims 1 to 18 and exposing the film to heat or actinic radiation to induce polymerisation of the polymerisable compound.

29. A method of making a light emitting layer according to claim 28 wherein the film is exposed to actinic radiation to induce polymerisation of the polymerisable compound.

30. A method according to claim 29 wherein the film is exposed to actinic radiation through a mask and then the exposed film is developed to remove unexposed material.

31. A method of forming a multicolour organic light emitting layer comprising the steps of

(i) forming a film of a composition claimed in any one of claims 1 to 18 capable of emitting light of a first colour;

(ii) exposing the film to actinic radiation through a mask;

(iii) removing unexposed material from the film to leave a predetermined pattern of exposed material;

(iv) forming, on the predetermined pattern of exposed material obtained in step (iii), a film of a composition claimed in any one of claims 1 to 18 which is capable of emitting light of a second colour different from the first colour; and

(v) exposing the film formed in step (iv) to actinic radiation through a mask.

32. A method according to claim 31 which comprises the further steps of

(vi) removing unexposed material from the film exposed in step (v) to leave a predetermined pattern of exposed material;

(vii) forming, on the predetermined pattern of exposed material obtained in step (vi), a film of a composition claimed in any one of claims 1 to 18 which is capable of emitting light of a third colour different from the first and second colours; and

(viii) exposing the film formed in step (vii) to actinic radiation through a mask.

33. A method according to any one of claims 28 to 32, wherein the film of the composition is formed by a technique selected from spin-coating, ink-jet printing, dip-coating, roller coating and thermal transfer.